DOCUMENT RESUME

ED 176 137 CG 013 727

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TITLE A Developmental Study of the Relationship Among Irrational Beliefs, Behavior Problems, and Neuroticism in Adolescent Boys.
PUB DATE [77]
NOTE 18p.; Paper presented at the Annual Convention of the Southeastern Psychological Association (25th, New Orleans, Louisiana, March 28-31, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adolescents; *Behavior Problems; *Beliefs; Developmental Psychology; *Maladjustment; Neurotic Children; Problem Children; *Psychological Patterns; *Rational Therapy; Secondary Education

ABSTRACT

Rational-Emotive Therapy states that maladaptive behaviors and emotional problems are the result of certain irrational beliefs that people hold and a number of empirical investigations with adult subjects have supported this claim. To determine whether the relationship between irrationality and psychological adjustment holds for adolescents, one hundred and eighty-four boys in the seventh, ninth, and twelfth grades were administered the Common Beliefs Survey III, to measure irrational beliefs, and the Neuroticism Scale Questionnaire. The advisors of each of the boys were also asked to rate the boys on the Behavior Problem Checklist. Data analysis revealed that the developmental trends for the irrational beliefs were generally different from those for neuroticism and behavior problems. The results suggest that the scales for irrational beliefs, neuroticism and behavior problems are not measuring the same entity during adolescence. These results were confirmed by correlational analyses since very few significant positive correlations were found among the scales. (Author)

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A Developmental Study of the Relationship Among Irrational Beliefs, Behavior Problems, and Neuroticism in Adolescent Boys

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Ellis (1975) has outlined twelve major irrational beliefs he considers to be widespread in Western civilization, and he believes that individuals who agree with these irrational beliefs are neurotic or otherwise poorly adjusted. The hypothesis that irrational beliefs and emotional adjustment are related has led to a number of empirical investigations with adults.

MacDonald and Games (1972) found that subscription to irrational beliefs was related to greater neuroticism, as measured by Eysenck's Neuroticism Scale (Eysenck & Eysenck, 1968), and anxiety, as measured by the Taylor Manifest Anxiety Scale (Taylor, 1953), in college students. Newmark, Frerking, Cook, and Newmark (1973) found that a group of hospitalized patients diagnosed as neurotic showed a significantly higher endorsement of eight of Ellis' irrational beliefs when compared with a group of persons with characterologic personality patterns and a normal control group. Goldfried and Sobocinski (1975) found that a positive relationship exists between irrational thinking and measures of social anxiety, test anxiety, and speech anxiety in college women. Higginbotham (1973) reported small, but significant, positive correlations between irrationality and the number of problems on the Mooney Problem Checklist (Mooney & Gordon, 1950) and manifest anxiety, as measured by the Taylor Manifest Anxiety Scale (1953). Ritchie (1974) found that a positive correlation existed between irrational beliefs and psychological adjustment, as measured by the California Psychological Inventory

(Gough, 1957) in outpatients of a University clinic, college students, and psychiatric patients. Waugh (1975) found significant positive correlations between irrationality and anxiety in a university sample and an outpatient mental health clinic sample.

Relatively little research has been conducted on the relationship between irrational beliefs and psychological adjustment in children or adolescents. Sandry (1974) devised a rationality questionnaire and an adjustment questionnaire which he administered to 122 sixth grade children. He also asked their teachers to fill out a teacher rating form. He found that rationality was positively correlated with adjustment, after the relationships with achievement and IQ were statistically removed. Only one empirical investigation of irrational beliefs has used adolescents in its research sample. Kassinove, Crisci, and Tiegerman (1977) developed a scale, the Idea Inventory, to assess irrational thinking in 435 students in grades four through twelve. All children also completed the Junior Eysenck Personality Inventory (1965). There was a general trend toward rejection of irrational ideation with age, and irrational beliefs and neuroticism were positively correlated at each grade level. The authors, however, did not address the question of significant differences in the number of irrational beliefs held among the various grade levels.

Further research investigating the relationship between irrationality and psychological adjustment in adolescence is needed. Many theories of adolescence emphasize "storm and strife" as the main feature of the adolescent period of development. A number of reasons have been postulated for

this turmoil including the physiological and hormonal changes that accompany adolescence. It is certainly plausible that this turmoil in adolescence may lead to irrational thinking patterns. However, the theoretical argument that irrationality is not related to psychological maladjustment or behavior problems in adolescents can also be justified. Indeed, it may be that the average adolescent thinks and behaves irrationally, but this irrationality may simply be a facet of development and not related to maladjustment or behavior problems. The purpose of this study was to examine the development of irrational beliefs for seventh, ninth, and twelfth grade boys and the relationship among irrational beliefs, school behavior problems, and neuroticism for the three grade levels.

Method

Subjects

The subjects were 184 boys attending a private co-educational country day school. Fifty-six boys were in the seventh grade, mean age 12.5 years with a standard deviation of 4.8 months, 59 boys were in the ninth grade, mean age 14.6 years with a standard deviation of 5.5 months, and 69 boys were in the twelfth grade, mean age 17.5 years with a standard deviation of 4.7 months.

Test Instruments

The Common Beliefs Survey III (CBS III) (Bessai, 1977) was used to measure the irrational beliefs systems of the boys. The CBS III was designed using factor analytic methods that provided six replicable first-order factors reflecting eight of Ellis' irrational beliefs. The six factors are

labeled and defined as follows: 1) Importance of the Past - the belief that the influence of the past is all important; 2) Blame Proneness - the belief that people should be evaluated and blamed for their misdeeds 3) Self-downing - the belief that one must think less of oneself when one fails; 4) Importance of Approval - the belief that one must have the approval of others; 5) Perfectionism - the belief that one must be competent and achieving; 6) Control of Emotions - the belief that people have little ability to control their emotions. The Neuroticism Scale Questionnaire (NSQ), designed by Cattell and Stice (1957), was used to measure neuroticism. Four component scores can be derived from this inventory: Sensitivity, Depression, Submissiveness, and Anxiety. In addition, the Behavior Problem Checklist (BPC - Quay & Peterson, 1967) was used to measure school behavior problems. Factor analytic studies have demonstrated that the BPC measures four problem behavior dimensions: conduct disorder (psychopathy, unsocialized aggression), personality disorder (neuroticism, anxious-withdrawn), inadequacy-immaturity, and subcultural (socialized) delinquency.

Procedure

The Common Beliefs Survey III and Neuroticism Scale Questionnaire were group administered to each of the three grade levels during study hall periods over a three-day period. In addition, 18 academic advisors were asked to rate the boys on the Behavior Problem Checklist within one week of the administration of the CBS III and NSQ.

Results

Developmental trends

Table 1 presents the means and standard deviations of the individual scales and total scores on the CBS III, NSQ, and the BPC for the seventh,

Insert Table 1 about here

ninth and twelfth grade boys. For all the means reported in this study, the higher the mean, the greater the indication of abnormality. In order to investigate developmental trends, a multivariate analysis of variance was performed using all seventeen dependent variables from the three scales. The multivariate analysis of variance revealed that the Hotelling-Lawley Trace was statistically significant (F Approximation = 2.90; df = 34,280; $p < .001$). Of the 17 dependent variables, eight were found to reach statistical significance in the univariate analyses of variance. These variables included four individual scale scores from the CBS III (Importance of Approval, Self-downing, Perfectionism, and Control of Emotions), the total score of the CBS III, two individual scale scores from the NSQ (Sensitivity and Anxiety), and the Personality disorder factor of the BPC.

Duncan's multiple range test (Duncan, 1975) was performed as a post hoc test on the eight dependent variables with significant F values in the univariate analyses in order to determine the statistically significant ($p < .05$) differences among the means of the seventh, ninth,

and twelfth grade boys. Table 2 presents a summary of these post hoc analyses. Four out of five CBS III scales - Self-downing, Importance

Insert Table 2 about here

of Approval, Perfectionism, and the total CBS III score - showed higher scores for the younger boys (seventh and ninth graders) indicating that, in general, irrational beliefs decreased with age. In contrast, the two NSQ scales and the BPC Personality disorder factor showed higher scores for the older boys (ninth and twelfth grades) indicating that sensitivity and anxiety increased with age as did teacher ratings of Personality disorders.

Correlational analyses

In order to investigate the relationship among irrational beliefs, behavior problems, and self-ratings of neuroticism, correlation coefficients were computed between the CBS III and BPC and between the CBS III and NSQ for the three grade levels. In general, few positive relationships were found between the CBS III and the BPC. For the seventh graders, only four statistically significant correlations at the .05 level were found and they were all negative. The Self-downing scale of the CBS III was negatively correlated with the Conduct disorder factor of the BPC ($r = -.38$, $p = .005$), the Inadequacy-Immaturity factor of the BPC ($r = -.41$, $p = .002$) and the total score of the BPC ($r = -.44$, $p = .001$) indicating that seventh grade boys who were more likely to think less of themselves

when they failed had a lower incidence of rated behaviors reflecting conduct disorders and inadequacy-immaturity, and a lower incidence of problem behaviors in general. The Perfectionism scale of the CBS III was negatively correlated with the Conduct disorder of the BPC ($r = -.31$, $p = .03$) indicating that seventh grade boys who were less perfectionistic had more rated behaviors indicative of conduct disorders.

For the ninth grade sample, there were no statistically significant correlations between the CBS III and the BPC. For the twelfth graders, two correlations were statistically significant. The Blame Proneness scale of the CBS III was positively correlated with the Conduct disorder scale of the BPC ($r = .26$, $p = .03$) indicating that twelfth grade boys who more strongly believe that people should be blamed for their misdeeds had a higher incidence of rated behavior problems indicative of conduct disorders. The Perfectionism scale of the CBS III was positively correlated with the Personality disorder factor of the BPC ($r = .26$, $p = .03$) indicating that the more perfectionistic twelfth grade boys had a higher incidence of rated behaviors associated with a personality disorder.

Few significant positive relationships were found among the correlations between the CBS III and the NSQ scales. For the seventh grade sample, two correlations were statistically significant. The Blame Proneness scale of the CBS III was negatively correlated with the total score of the NSQ ($r = -.30$, $p = .03$), indicating that seventh grade boys who more strongly believe that people should be blamed for their misdeeds are

less neurotic. The total score of the CBS III was negatively correlated with the Sensitivity scale of the NSQ ($r = -.32$, $p = .02$), indicating that the seventh grade boys who hold more irrational beliefs are less sensitive and tender-minded.

For the ninth graders, two correlations reached statistical significance. The Blame Proneness scale of the CBS III was negatively correlated with the Submissiveness scale of the NSQ ($r = -.25$, $p = .05$), indicating that ninth grade boys who more strongly believe that people should be rated and blamed for their misdeeds are less submissive and obedient. The Perfectionism scale of the CBS III was positively correlated with the Depression scale of the NSQ ($r = .28$, $p = .03$), indicating that the ninth grade boys who are more highly perfectionistic are more depressed.

For the twelfth grade sample, four correlations were statistically significant. The Importance of the Past scale of the CBS III was positively correlated with the Submissiveness scale of the NSQ ($r = .26$, $p = .05$), indicating that the more twelfth grade boys believe the past influences their present behavior, the more their behaviors will be submissive and obedient. The Importance of Approval scale of the CBS III was positively correlated with the Anxiety scale of the NSQ ($r = .27$, $p = .04$), indicating that twelfth grade boys who view the importance of approval as valuable are anxious. The Perfectionism scale of the CBS III was positively correlated with the Anxiety scale of the NSQ ($r = .27$, $p = .04$)

indicating that the more perfectionistic twelfth grade boys are more anxious. Finally, the total score of the CBS III was positively correlated with the Anxiety Scale of the NSQ ($r = .33$, $p = .01$), indicating that twelfth grade boys who hold more irrational beliefs are more anxious.

Discussion

This study did reveal some developmental differences in the frequency of irrational beliefs. However, the simple linear decrease in frequency as a function of age reported by Kassinove, Crisci, and Tiegerman (1977) did not manifest itself from the seventh to the ninth grade in this sample. When viewed collectively, these results indicate that the total number of irrational beliefs, and the irrational beliefs reflecting self-downing, perfectionism, and the importance of approval did not discriminate between the seventh and ninth grade boys.

One possible explanation may be that the seventh and ninth grade boys were at similar stages of adolescent development. In addition, for the CBS III scale Control of Emotions, there was a reversal of the trend discussed above indicating that the older boys (ninth and twelfth graders) more strongly subscribe to the irrational belief that people have little ability to control their emotions than seventh graders. That is, as boys in our culture grow older, society expects them to act more maturely. This expectation implies adhering to the dominant, stereotyped cultural role of the male. An essential aspect of this role is to inhibit one's emotions and "act like a man," as Osterrieth (1969) has noted in his

discussion of the socio-affective aspects of adolescence. At the same time, however, the adolescent becomes introspective and overdifferentiates his feelings and comes to regard himself as something special (Inhelder and Piaget, 1958). The adolescent's first attempts at dating are also often viewed as frustrating and unpredictable and often lead to quite strong emotional experiences and "love sickness." Thus, despite society's expectations that emotions be controlled, the adolescent finds that it's "easier said than done." Consequently, the personal experiences of the ninth and twelfth grade boys may lead them to conclude that people do, in fact, have difficulty controlling their emotions.

Interestingly, the developmental trends for the irrational beliefs were generally different from those of the NSQ and BPC. That is, the younger boys had more irrational beliefs, while the older boys were more neurotic and had more evidence of behavior problems. These results suggest that the scales for irrational beliefs, maladjustment, and behavior problems are not measuring the same entity during adolescence.

The failure to find stronger relationships between the CBS III and the Personality and Inadequacy-immaturity factors of the BPC and the scales of the NSQ is difficult to justify theoretically because these scales appear to have been designed to reflect the neurotic qualities that Ellis believes to be intricately associated with holding irrational beliefs. Two possible explanations for these results might be offered. First, it is possible that the criterion measures (BPC and NSQ) against which the CBS III was correlated in this study did not provide an adequate

measure of maladjustment. Secondly, the experiences that led Ellis to formulate his theory of rational-emotive psychotherapy were with adult clients, and it is therefore possible that the concept of irrational beliefs may be applicable only to adults, or at least more relevant to adults than to children or adolescents.

Another theoretical issue yet to be answered by research is that of causality: do irrational beliefs lead to behavior problems and emotional maladjustment or vice versa? Ellis (1962) states that there are two-way relationships among thinking, emoting, and behaving, but he contends that cognitions are the causative agent, and therefore, least affected by emotions and behavior. However, research conducted regarding the direction of causality has not appeared in the literature. It may be that adolescence, as a period of turbulence, includes a reversal of Ellis' hypothesized direction of causality. That is, it may be that emotions (affect) play a role in rationality (cognitions) in adolescence. If the finding that there were fewer significant correlations between irrational beliefs and the NSQ and BPC for the ninth grade than the seventh or twelfth grade is considered as partial support for the idea that the emotional turmoil of the middle of adolescence is characterized by irrationality, then tentative support for the supposition that emotions affect cognitions might be indicated.

Rational-emotive theory states that certain ideas are irrational and belief in these ideas causes maladjustment to a large extent. The results of this study suggest that this hypothesis may not be as clearly applicable to adolescents as it is to adults.

References

Bessai, J.L. The common beliefs survey: A factored measure of irrational beliefs. Paper presented at the Second National Conference on Rational-emotive Therapy. Chicago, June, 1977.

Cattell, R.B. & Stice, G.F. Handbook for the Sixteen Personality Factor Questionnaire. Champaign, Illinois: Institute for Personality and Ability Testing, 1957.

Duncan, D.B. T-tests and intervals for comparisons suggested by the data. Biometrics, 31, 1975, 339-359.

Ellis, A. Reason and Emotion in Psychotherapy. New York: Lyle Stuart, 1962.

Ellis, A. How to Live with a Neurotic. New York: Crown Publishers, 1975.

Eysenck, S. A new scale for personality measurements in children. British Journal of Educational Psychology, 1965, 35(3), 362-367.

Eysenck, H.S. & Eysenck, B.G. The Eysenck Personality Inventory. San Diego, Calif.: Educational and Industrial Testing Service, 1968.

Goldfried, M.R. & Sobocinski, D. Effects of irrational beliefs on emotional arousal. Journal of Consulting and Clinical Psychology, 1973, 43, 504-510.

Gough, H.G. California Psychological Inventory Manual. Palo Alto, Calif.: Consulting Psychologists Press, 1957.

Higginbotham, T.E. Irrationality in college students. Rational Living, 1973, 8(1), 21.

Inhelder, B. & Piaget, J. The Growth of Logical Thinking from Childhood to Adolescence: An Essay on the Construction of Formal Operational Structures. New York: Basic Books, 1958.

Kassinove, H., Crisci, R. & Tiegerman, S. Developmental trends in rational thinking: Implications for rational-emotive school mental health programs. Unpublished manuscript, Hofstra University, 1977.

MacDonald, A.P. & Games, R.G. Ellis' irrational values. Rational Living, 1972, 7(2), 25-28.

Mooney, R. & Gordon, G. The Mooney Problem Checklist (Manual). New York: The Psychological Corporation, 1950.

Newmark, C.S. Frerking, R.A., Cook, L., & Newmark, L. Endorsement of Ellis' irrational beliefs as a function of psychopathology. Journal of Clinical Psychology, 1973, 3, 300-302.

Osterrieth, P.A. Adolescence: Some psychological aspects. In G. Caplan & S. Lebovici (Eds.), Adolescence: Psychosocial Perspectives. New York: Basic Books, Inc., 1969.

Quay, H.C. & Peterson, D.R. Manual for the Behavior Problem Checklist. Champaign, Illinois: Children's Research Center, Univ. of Illinois, 1967.

Richie, D.R. The relationship between irrational beliefs, as measured by the Irrational Beliefs Test, and psychological adjustment, as measured by the California Psychological Inventory. Unpublished doctoral dissertation, Univ. of Iowa, 1974.

Sandry, M.E. Rational-emotive theory: A study of the relationship between adjustment and irrational ideas. Unpublished doctoral dissertation, Univ. of Pennsylvania, 1974.

Taylor, J. A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 1953, 48, 285-290.

Waugh, N.M. Rationality and emotional adjustment: A test of Ellis' theory of rational-emotive psychotherapy. Unpublished doctoral dissertation, Case Western Reserve Univ., 1975.

Table 1

Means and Standard Deviations of the Individual Scales and Total Scores on the Common Beliefs Survey III, Neuroticism Scale Questionnaire, and the Behavior Problem Checklist for Grades 7, 9, and 12

	Grade 7		Grade 9		Grade 12	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
CBS III scales:						
Importance of the Past	25.5	6.5	25.4	5.7	25.5	5.7
Blame Proneness	25.4	4.3	24.8	4.6	24.8	4.9
Self-downing	30.6	4.4	29.8	5.9	26.7	5.1
Importance of Approval	27.5	5.2	26.4	6.0	25.2	5.4
Perfectionism	27.5	5.3	26.7	5.6	23.0	4.8
Control of Emotions	22.7	4.8	25.4	4.5	24.3	3.8
Total Score	158.9	17.1	158.6	16.5	149.6	19.9
NSQ scales:						
Sensitivity	7.5	2.4	8.9	2.8	8.5	3.0
Depression	8.4	2.9	7.9	3.1	7.7	2.9
Submissiveness	10.3	3.3	9.4	2.6	9.4	3.4
Anxiety	11.7	2.8	12.0	2.2	10.8	2.7
Total Score	38.0	6.5	38.1	5.7	36.5	6.9
BPC factors:						
Conduct Disorder	1.4	2.5	1.7	2.8	1.6	2.5
Personality Disorder	1.5	2.1	2.8	3.3	3.4	3.9
Inadequacy-Immaturity	1.1	1.8	1.1	1.5	1.2	1.8
Subcultural Delinquency	0.0	0.0	0.1	0.4	0.1	0.5
Total Score	5.2	6.0	7.1	8.0	7.3	8.0

Table 2

Summary of Post Hoc Analyses

Common Beliefs Survey III:		
	Self-downing -	7 > 12
		9 > 12
	Importance of Approval -	7 > 12
	Perfectionism -	7 > 12
		9 > 12
	Control of Emotions -	9 > 7
		12 > 7
	Total Score -	7 > 12
		9 > 12
Neuroticism Scale Questionnaire:		
	Sensitivity -	9 > 7
		12 > 7
	Anxiety -	12 > 9
Behavior Problem Checklist:		
	Personality Disorder -	9 > 7
		12 > 7